

# **Rakuten CEO Meetings with U.S. Government officials**

**Rakuten Mobile Americas  
July 2021**



# Rakuten Group at a glance

Rakuten is an internet and technology-powered group operating since 1997 with 70+ businesses and 20k+ employees across the globe

**~\$210B**

Global gross transaction volume in 2020

**~\$14B**

Total annual revenue (2020)

**1.4B+**

Members globally

**20k+**

Employees across the globe

**70+**

Services and businesses

**35+**

Countries/areas around the world



# Rakuten in the U.S.



The Rakuten Americas portfolio includes market leaders in e-commerce, marketing, advertising, business intelligence, logistics, communications and entertainment. And now entering the 5G market with our unique virtualized solutions.

We believe that focusing on innovation and ethics creates value for consumers and businesses by aligning them together in a shared community.

<b>+3,000</b> U.S. Employees	<b>+13</b> Office Locations	<b>15</b> Distribution Facilities
<b>+\$20B</b> Annual GMV	<b>+\$1B</b> Annual Revenue	<b>#1</b> Ranked Affiliate Network
		<b>+15</b> Acquisitions in U.S.



## Business Portfolio in U.S.

Ecommerce	Advertising & Data	Contents	Logistics
<b>Rakuten</b> SHOPSTYLE <small>A Rakuten Company</small>	<b>Rakuten</b> Advertising <b>Rakuten</b> Intelligence	<b>Rakuten</b> VIKI KonMari	<b>Rakuten</b> SUPER LOGISTICS <i>first mile</i> <small>A Rakuten Company</small>

## Rakuten Mobile in U.S.

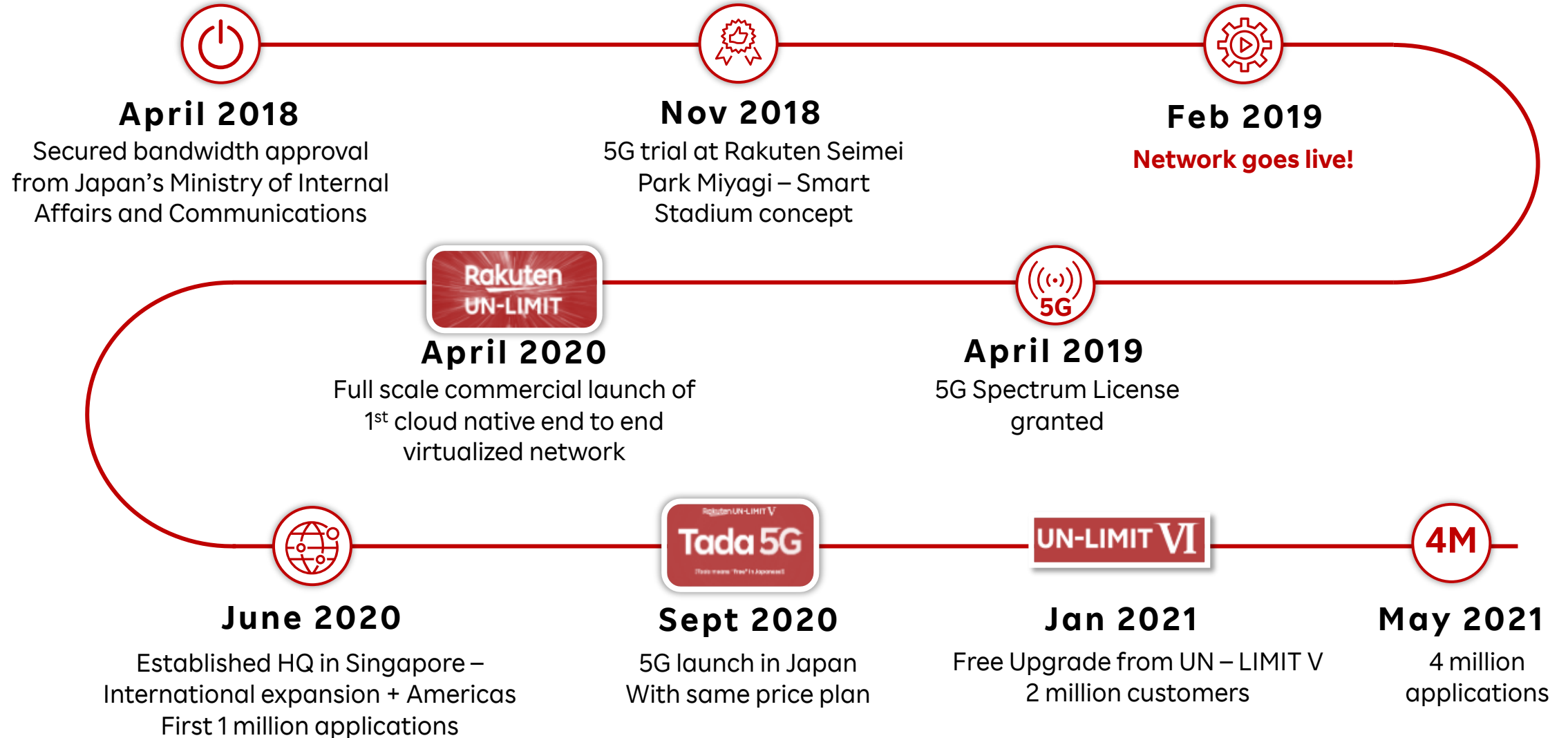


Rakuten Mobile Americas has been established to provide telecommunications technology solutions and services based on the Rakuten Communications Platform (RCP) to the mobile telco industry across the Americas. RCP, developed by Rakuten Mobile, the world's first end-to-end fully virtualized cloud-native mobile network, empowers telco operators, enterprises and governments to easily build, deploy and scale secure next-generation, cloud-based Open RAN mobile networks at high speed and low cost.

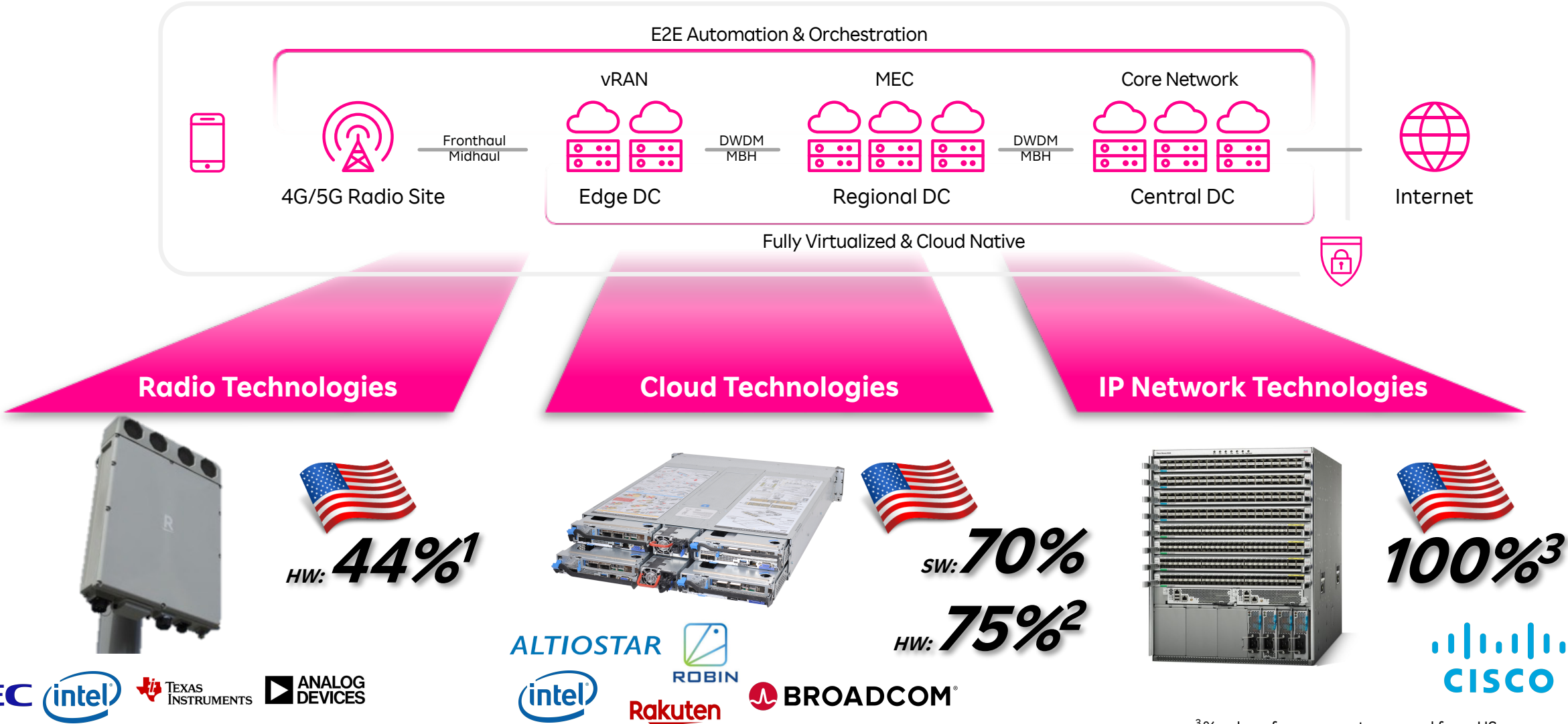
## Recent Investments in U.S.

<b>5G / Network</b> <b>AST</b> SpaceMobile <b>ALTIOSTAR</b> Leading Network Transformation <b>ROBIN</b>	<b>Fintech</b> <b>acorns</b> <b>wepay</b> a CHASE company <b>BlueVine</b> <b>Upstart</b>	<b>Medical</b> <b>Rakuten Medical</b>
<b>Mobility</b> <b>lyft</b> <b>INSIKT</b> <b>AIRMAP</b>	<b>Data &amp; AI</b> <b>ALGORITHMIA</b> <b>CyndX</b> <b>Galaxy AI</b>	<b>Digital Marketing</b> <b>pocketmath</b> <b>polymorph</b> <b>D</b>
		<b>Digital Contents</b> <b>epic!</b> <b>fever</b> <b>p</b>

# Within two years, we built a network from scratch



# Rakuten Mobile is a Technology Company with US Tech DNA



<sup>1</sup>% value of components sourced from US companies in NEC Radio HW

<sup>2</sup>% value of components sourced from US companies in Quanta Cloud Server HW

<sup>3</sup>% value of components sourced from US companies in Cisco Switch & Routers

# Rakuten Mobile and Rakuten Communications Platform

The Rakuten Ecosystem is uniquely positioned to build an entirely new digital platform with Rakuten Mobile

**Rakuten**  
**Mobile**

**RCP**

**mobile operator**

world's first fully virtualized,  
cloud native

Best mobile experience  
for **consumers**



Japan

**telco platform**

world's first fully virtualized,  
cloud-native, end-to-end

Enables **telcos and enterprises**  
easily build secure and open  
networks

Global



*Rakuten Mobile is the first customer of RCP*

# Rakuten innovated at four strategic levels



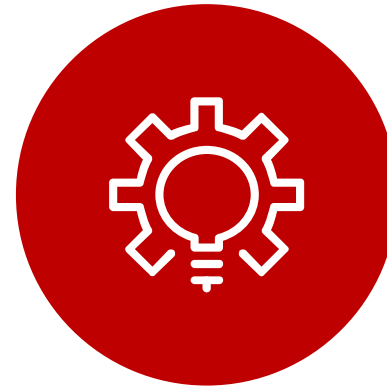
## Disaggregated Radio

Radically Lower Site  
Capital Expenditure



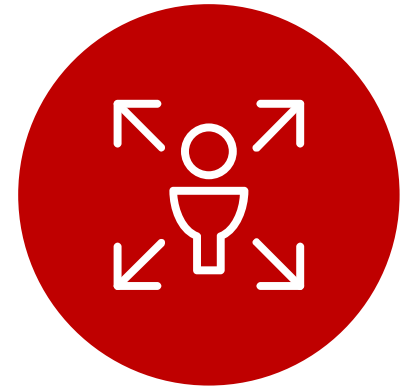
## Unified Cloud

Elastic Architecture for Greater  
Scalability



## Massive Automation

Relentless End-to-End Automation  
of Everything



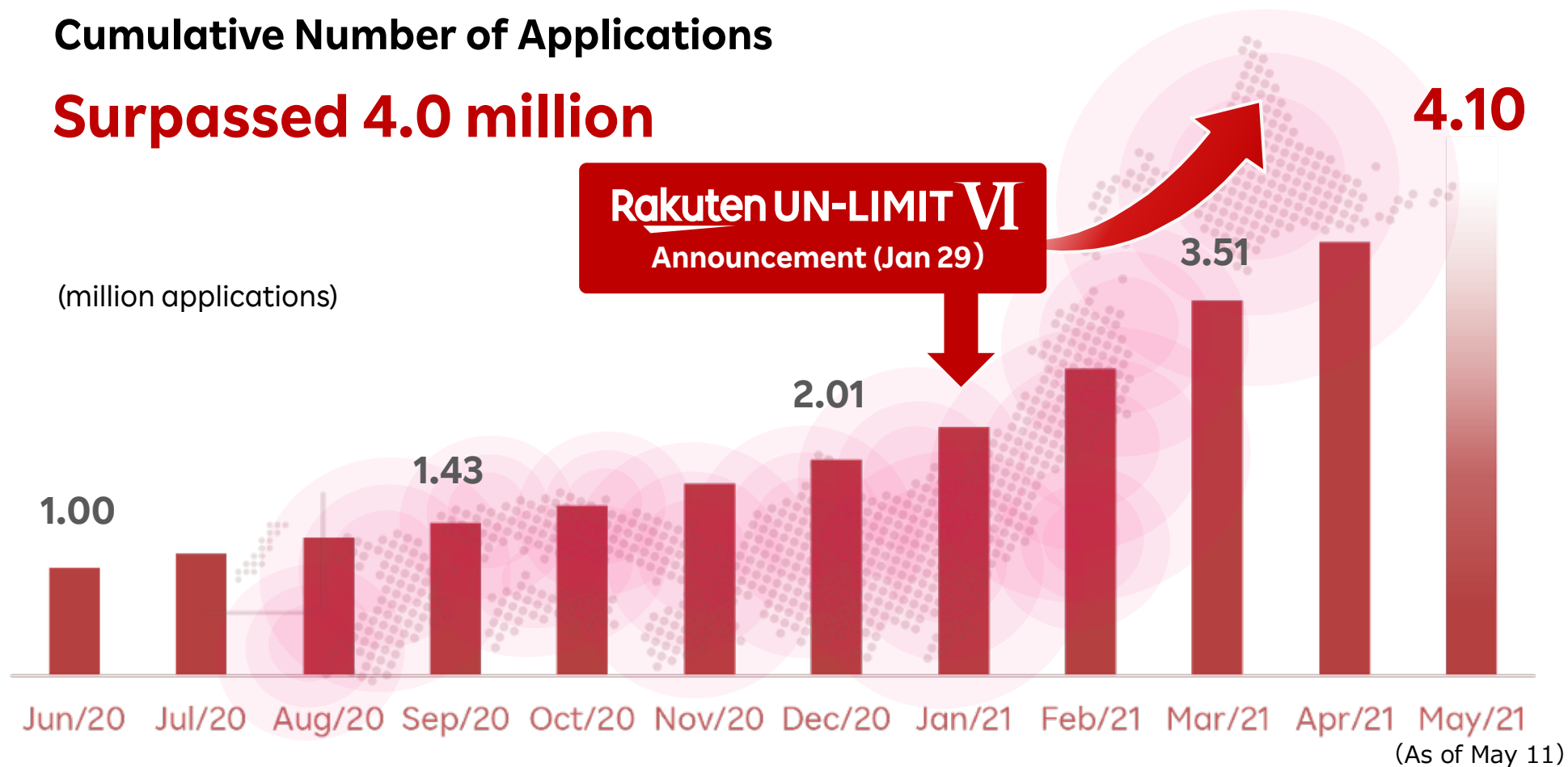
## Platform Organization

Modern Organization for  
Next-Gen Business

# Acceleration of Customer Acquisition

Cumulative Number of Applications

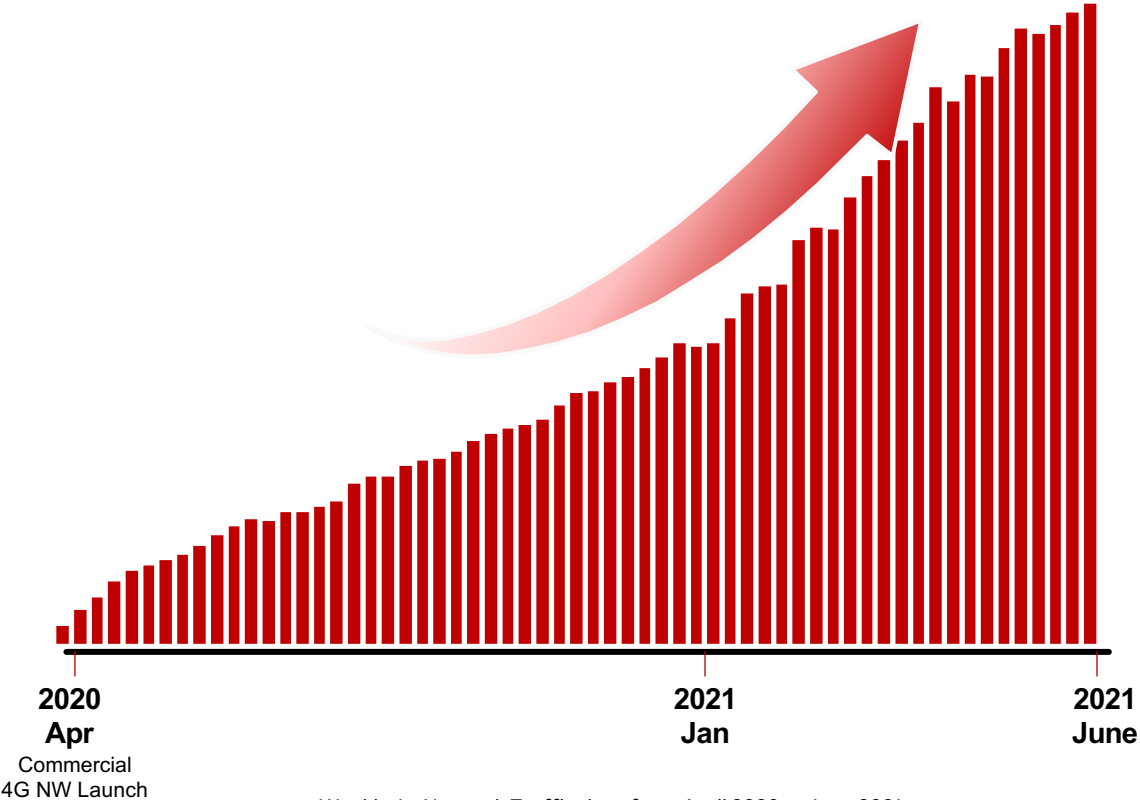
**Surpassed 4.0 million**



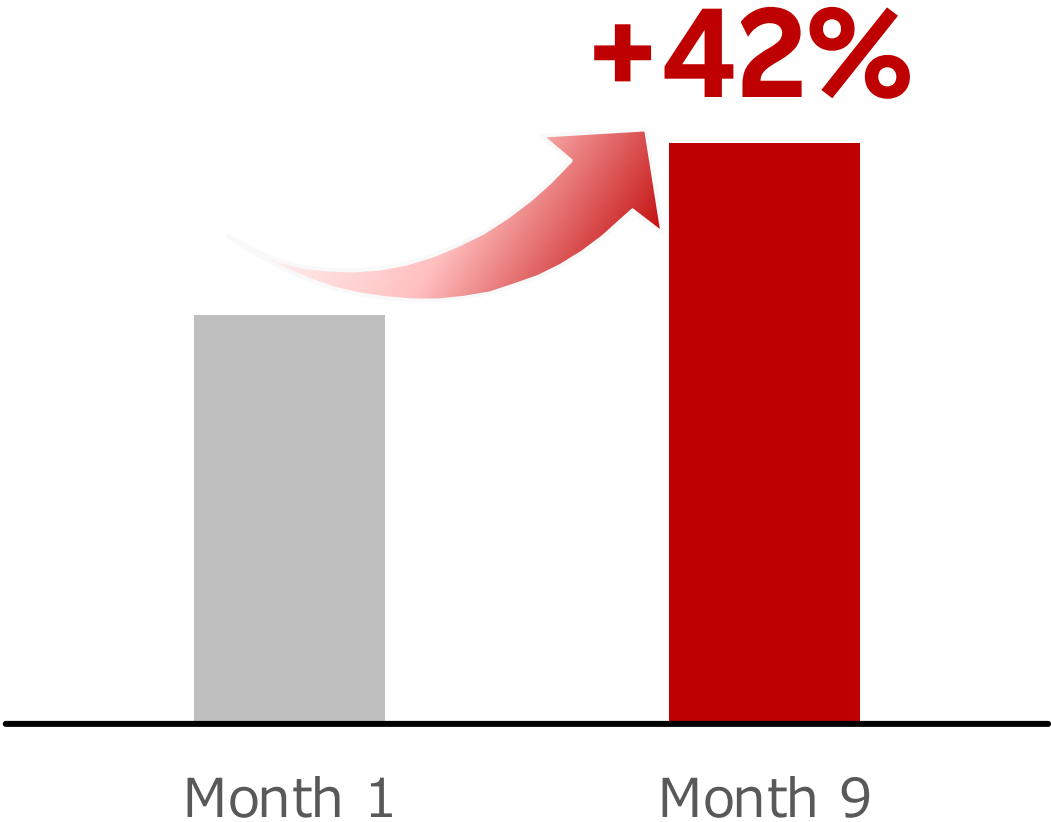


# The longer subscribers use the service, the more data they consume

Rakuten Mobile Network Data Traffic



Data traffic per Rakuten Mobile subscriber



Comparison of data usage per user in one month after the application and nine months after the application of users who applied for Rakuten mobile in June and July 2020

# Even with rapid traffic growth, the user experience continues to improve

## Network Voice Quality

**98.2%**

of Voice Calls have exceptional voice quality



## Network Coverage Experience

**99.7%**

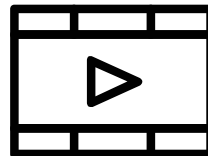
of sessions are in very good coverage area



## YouTube Sessions

**2.5 Million**

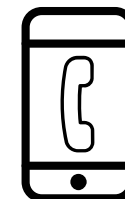
YouTube videos are watched daily



## RCS to VoLTE Ratio

**5:1**

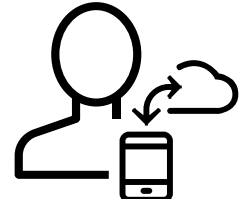
Daily Call Volume ratio



## Average Data Consumption

**0.51 GB**

of data consumed daily per customer



# Rakuten Mobile is globally recognized

Rakuten Mobile's fully virtualized, end to end cloud-native mobile network has been highly evaluated across the world and has been recognized as the upcoming network of the new generation.



**Smart Solutions: Mobile Network**  
MM Research Institute Award



**Most Innovative Mobile/  
Wireless Product or Service**  
Leading Lights Awards 2020



**The Best Automated Network 2021**  
Layer 123 Europe 2021



**Ground-breaking Virtualization Initiative**  
Glotel Awards 2020



**Market Development Award**  
GTI Awards 2021



**Best Mobile Technology Breakthrough & CTO  
Choice: Outstanding Mobile Technology**  
Glomo Awards 2021

# Recognized for **best Voice App Experience and Upload Speed Experience in Japan**

Oct 2020\*<sup>1</sup>

Mobile Experience Awards, Japan				
OPENSIGNAL				
October 2020, Japan Report				
	N NTT DoCoMo	S SoftBank	a au	R
▶ Video Experience		WINNER		
🎮 Games Experience		WINNER		
🎤 Voice App Experience		WINNER		
⬇️ Download Speed Experience	WINNER			
⬆️ <b>Upload Speed Experience</b>				WINNER
📶 4G Availability			WINNER	

Apr 2021\*<sup>2</sup>

Mobile Experience Awards, Japan				
OPENSIGNAL				
April 2021, Japan Report				
	a au	N NTT DoCoMo	R	S SoftBank
▶ Video Experience				WINNER
🎮 Games Experience				WINNER
🎤 <b>Voice App Experience</b>			WINNER	
⬇️ Download Speed Experience		WINNER		
⬆️ <b>Upload Speed Experience</b>			WINNER	
📶 4G Availability	WINNER			

\*1 Opensignal Mobile Network Experience Report October 2020 for Japan based on independent analysis of mobile measurements recorded during the period June 1 – August 29, 2020 © 2020 Opensignal Limited

\*2 Opensignal Mobile Network Experience Report April 2021 for Japan based on independent analysis of mobile measurements recorded during the period December 1, 2020 – February 28, 2021. ©

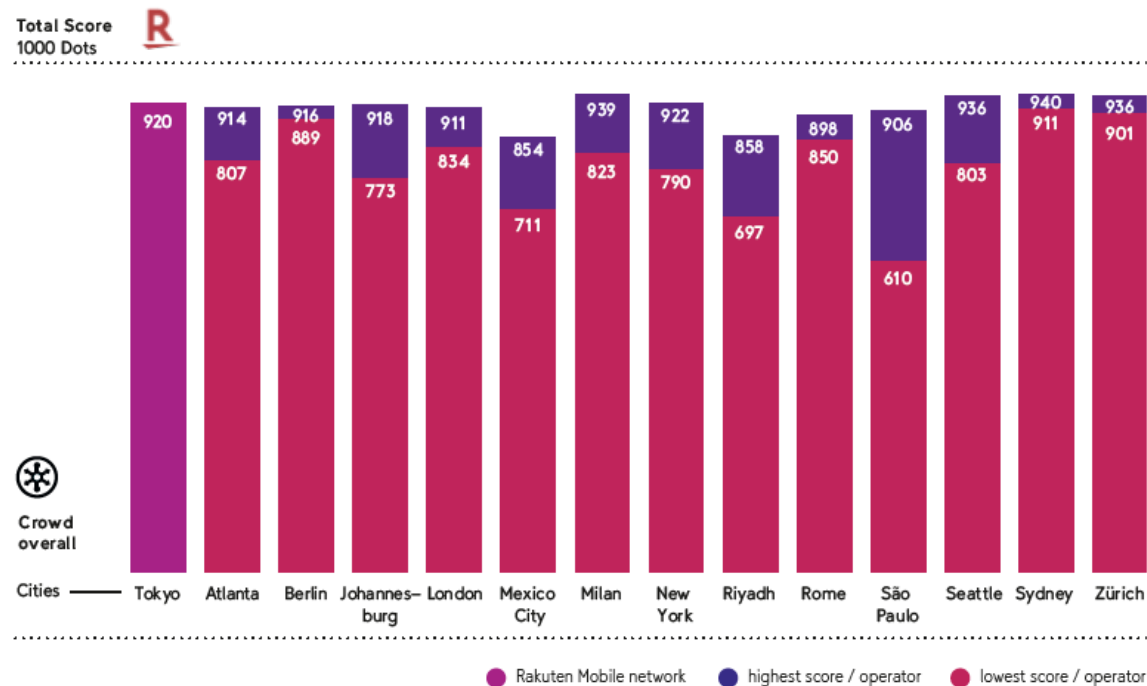
2021 Opensignal Limited.



# Globally Recognized O-RAN based NW Performance

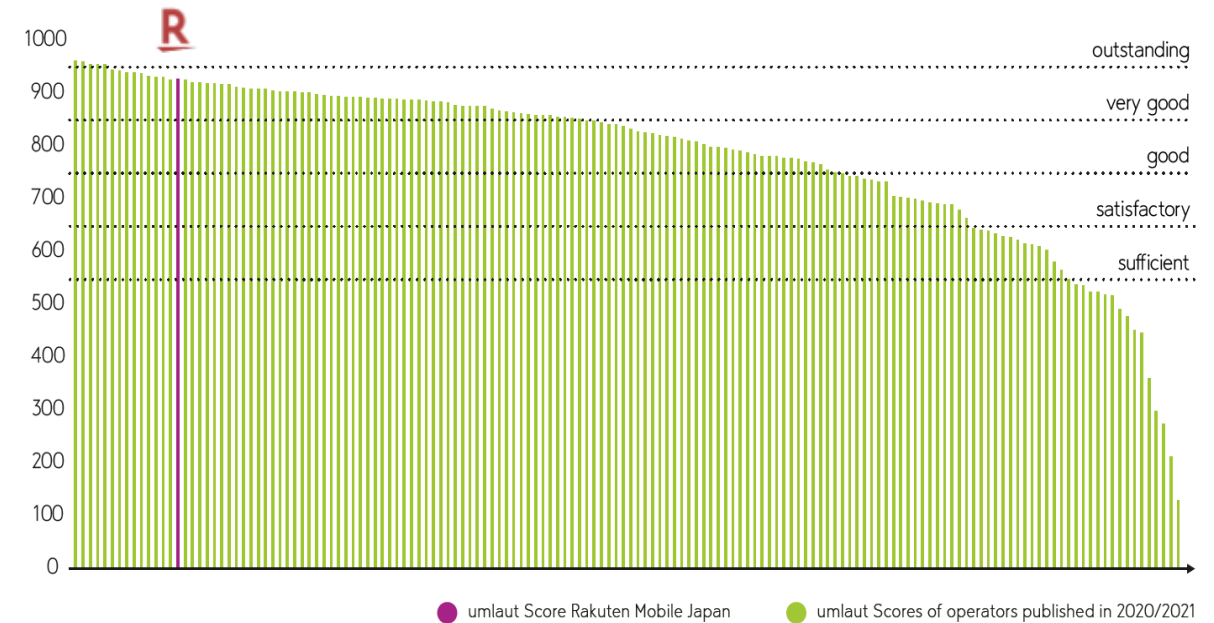
## Score comparison — Overall

Selected international cities



## Nationwide Score comparison

Nationwide Rakuten Mobile network in global comparison



# With Openness comes responsibility for top Security



## Trusted Transparency

Working with a **trusted supply chain** and continuously **verifying the trust level** of the system – all physical, virtual, hardware and software components



## Zero Trust

Conducting **Trust Assessment**, applying **Trust Level Policy** for each network zone, and **enforcing the Policy** through automated updates



## NIST Framework

Adopting **the Cybersecurity Framework** to enhance our capability to identify, prevent, detect, respond to cyber attacks and recover



## Clean Network

Providing secure **end-to-end cloud-native network** infrastructure with trusted partners and **establishing** processes to safeguard customer privacy and sensitive information

# Our architecture vision and design principles

## 5G RADIO

### O-RAN ARCHITECTURE

Disaggregated and Cloud Native RAN Architecture

## HARDWARE

### STANDARD COTS

x86 COTS hardware for the entire network infrastructure

## CLOUD INFRA

### COTS-BASED MEC DESIGN

Optimal mix of edge data centers and central data centers

## PLATFORM

### CLOUD NATIVE TELCO PLATFORM

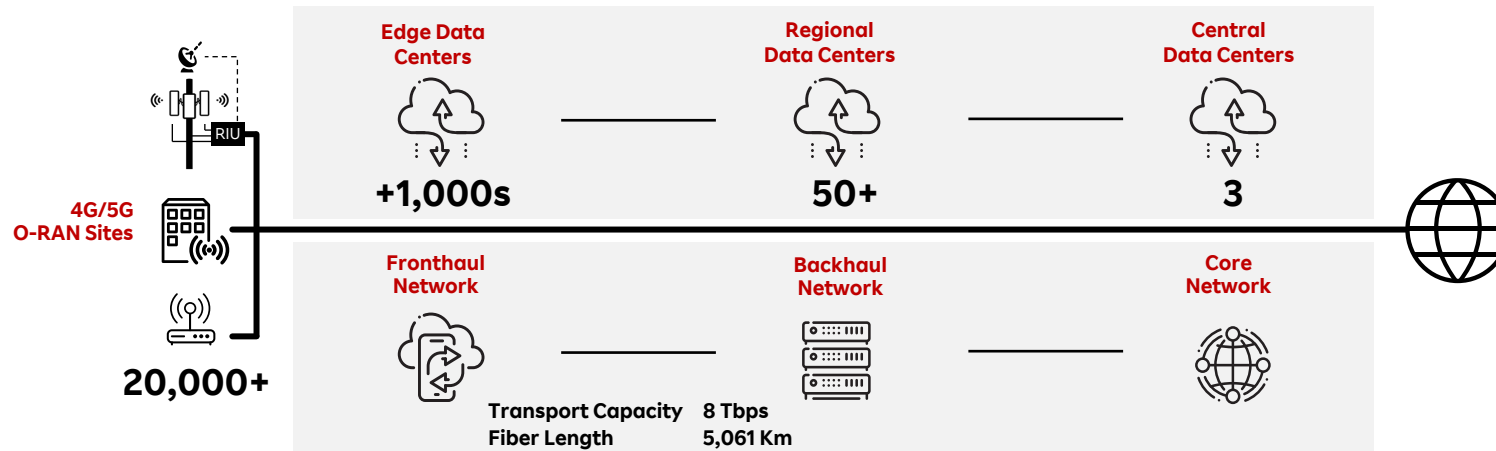
Unified end to end platform designed for elasticity and scalability

## OPERATIONS

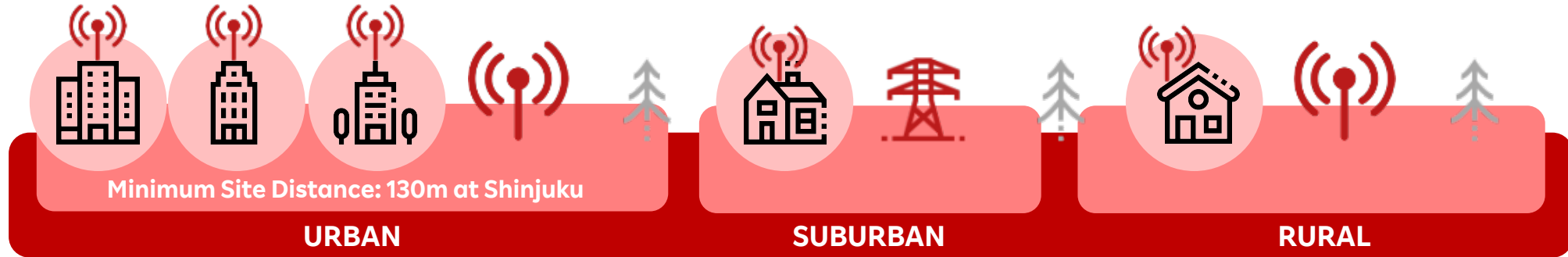
### AUTOMATION & AI OPS

Automation for everything supported with AI models

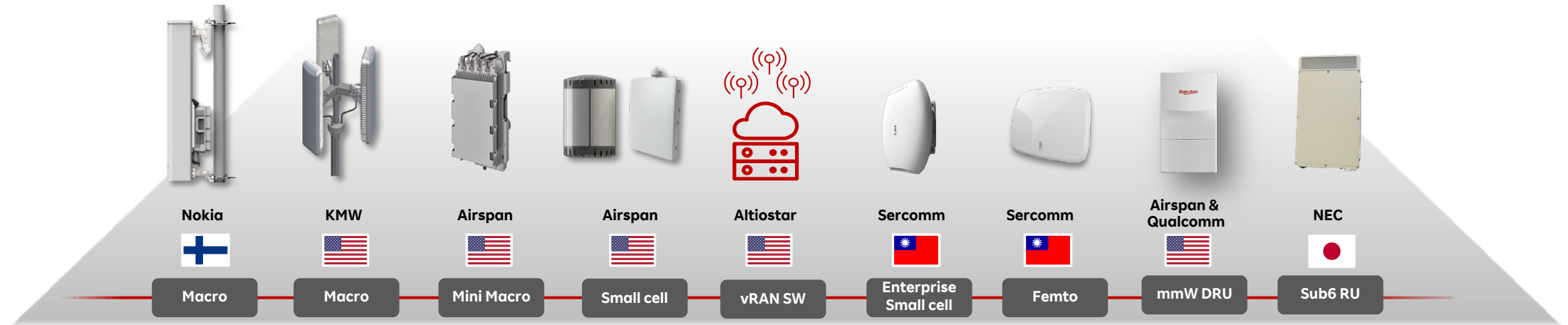
## Rakuten Mobile Japan Cloud Native Architecture



# World's Largest HetNet Open RAN Deployment



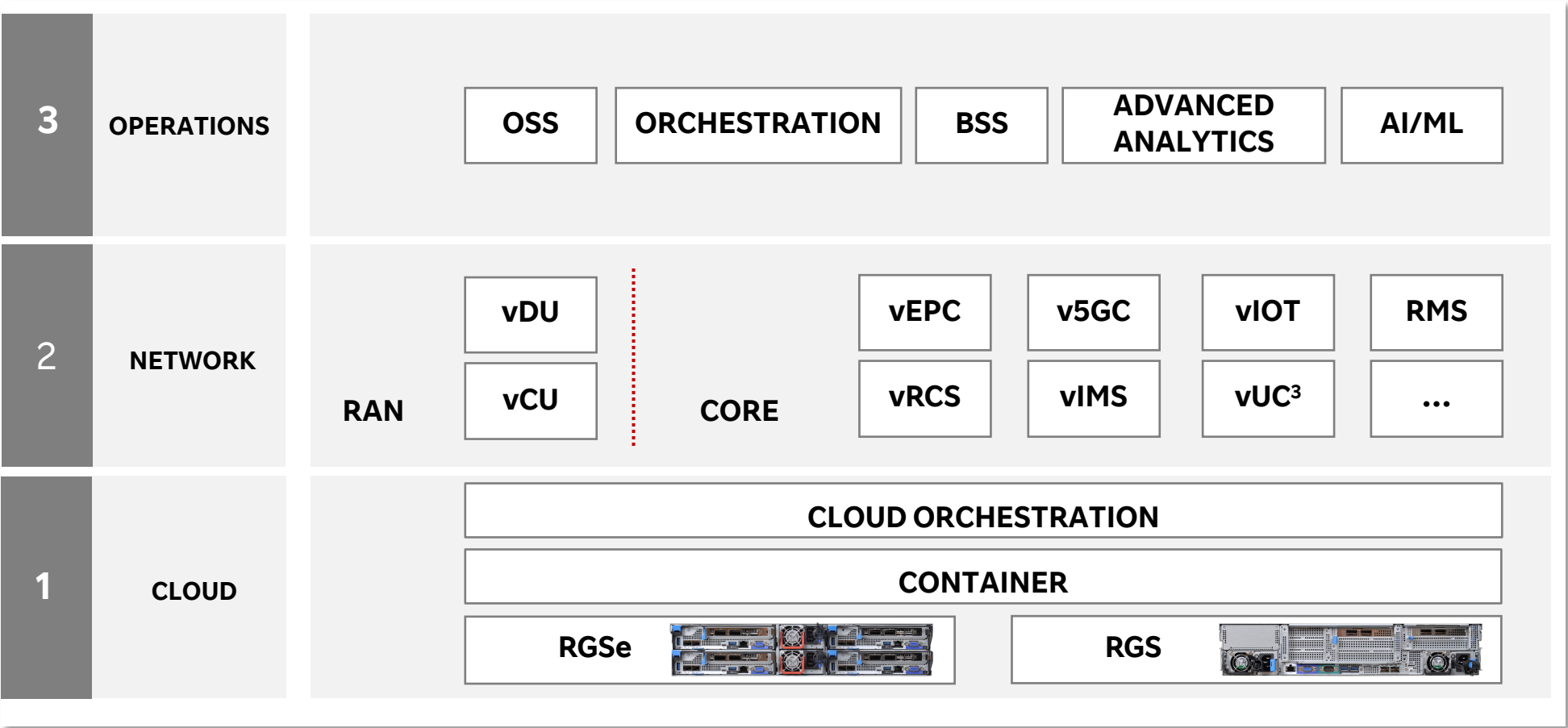
And Open RAN Product Portfolio to address diverse deployment use-cases





# Rakuten Communications Platform

We have built our network based on KEY DESIGN PRINCIPLES allowing us to disrupt the telecom market in Japan



## KEY DESIGN PRINCIPLES

- ADVANCED AUTOMATION FOR TOUCHLESS OPERATIONS
- 100% DISAGGREGATION FROM HARDWARE
- OPEN ARCHITECTURE
- 100% COTS HARDWARE
- ELASTICITY WITH CONTAINERS TO SCALE AT LOW COST

**Rakuten**

The Rakuten logo is centered on a solid red background. It consists of the word "Rakuten" in a bold, white, sans-serif typeface. A white, horizontal, slightly curved brushstroke underline is positioned beneath the letters "akuten".